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## Preface

*Valvular Medicine* is a textbook which represents an overview of recent discoveries and scientific contributions in the field of valvular heart disease. The book is designed to update cardiologists, internists, family practice physicians, cardiac surgeons, and basic scientists regarding the most recent science, clinical trials, and new discoveries in the field of valvular heart disease. For decades, cardiac valve lesions have been thought to be due to a degenerative process, which has been for years described as “a wear and tear phenomena”; however experimental studies in the field of cardiac valve biology have demonstrated that this disease process is an active biology.

Since 1968, the only therapy for calcific aortic valve disease has been careful observation until the time of the classic triad of symptoms, which includes chest pain, shortness of breath, and lightheadedness. When these symptoms develop, the timing to surgical valve replacement is critical to avoid the increase in morbidity and mortality for the patient. Across the world, percutaneous intervention for aortic stenosis is soon becoming the next option for therapies for patients.

Over the past 15 years, epidemiologists have discovered that valvular risk factors are similar to vascular risk factors. These vascular risk factors an atherosclerotic valve lesion which is similar to the vasculature lesion in experimental models. The final common pathway for the disease phenotype is bone formation in the valve. These studies will help to further understand not only the cellular mechanisms, but also the potential to target this disease with medical therapies.

Similar discoveries in the field of mitral valve biology and risk factors are also evolving rapidly, to will give physicians and scientists insight into the cellular mechanisms, and the possibility of treating this valve lesions with other options besides surgical valve repair. The future results of the randomized surgical trial for mitral regurgitation will provide the template for the timing of intervention.

Our understanding of right sided valve lesions is also rapidly becoming important in the field of valvular medicine. Not only is the pathology different from the left sided valve lesion, but the hemodynamic compromise is more complex and difficult to treat in patients who develop tricuspid or pulmonary valve disease. Early diagnosis and careful management of this patient population is critical for long term outcomes in this patient population.

The most important lesson in the care of the patient is a careful history and physical exam. The stethoscope and the art of auscultation will continue to be

important in screening for cardiac and pulmonary disease, but a future window to diagnose early atherosclerosis in patients who have aortic valve sclerosis. The authors and I hope that this textbook will bring the most recent developments in the field of valvular heart disease to the reader and provide a translational understanding from bench to bedside for the future treatments for this patient population.

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